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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT	PAPER NUMBER
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DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/433,062

Applicant(s)

SKUPIEN, THOMAS A.

Examiner

Sikha Roy

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The drawings filed on the application are acceptable subject to corrections of the informalities indicated on the attached "Notice of Draftperson's Patent Drawing Review", PTO-948.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,077,498 to Odenthal in view of U. S. Patent 5,204,585 to Chen and further in view of U. S. Patent 5,734,235 to Noguchi.

Odenthal discloses (Fig. 1 column 4 lines 32-38,55-59,column 5 lines3-20) a cathode ray tube comprising an electron gun including cathode producing a beam of electrons, said focus electrode (focus ring) 52 positioned between second accelerating electrodes 54 and final accelerating electrode 56. The einzel focus lens 16 forms an electron beam with low spherical aberration. The focus electrode 52 receives a potential via one of the base pins 51. The outer electrodes 54 and 56 receive a voltage between 12 and 24 kilovolts.

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Odenthal does not disclose final accelerating electrode being conductive coating on the neck and the second accelerating electrode being connected to an external potential via the high voltage stem pin.

Chen in analogous art of electron beam deflection lens for CRT discloses (column 9 lines 10-25 Fig.5) the outer electrode (G6) disposed in the form of a conductive coating deposited on the inner surface of the glass envelope and electrically coupled to the anode button for receiving the anode voltage V_A . It is further noted (column 9 lines 60-66) that the main focus lens of the electron gun has a larger diameter and hence reduces electron beam spherical aberration and improves the electron beam spot on the CRT display screen.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the final accelerating electrode 56 of the einzel focus lens of Odenthal to an internal conductive coating connected to anode potential as suggested by Chen for increasing the diameter of the main focusing lens and hence reducing electron beam spherical aberration.

Noguchi in relevant art of electron gun with reduced astigmatism discloses (column 3 lines 1-25 Fig. 10) that an electron gun for a cathode ray tube needs voltages supplied from stem pins provided in the stem. Noguchi teaches the final accelerating voltage supplied from the anode button and the focus voltage V_f in a range of 3 to 12 kv supplied via pin 101. Accordingly the number of the kinds of high focus voltages to be supplied via stem pins is reduced to only one, so that the electron gun for use in a

cathode ray tube eliminates the need for any special socket for supplying a voltage thereto (column 6 lines 33-35).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the isolated high voltage stem pin for supplying high voltage of 12 kv to the second accelerating electrode 54 and other pins for supplying low voltages to other electrodes of Odenthal as taught by Noguchi for eliminating the need for any special type of socket.

Referring to claims 2 and 4, Odenthal in view of Chen discloses the potential supplied to the second accelerating and final accelerating electrodes being same and equal to the anode potential. Hence the external potential supplied by the high voltage stem pin to the second accelerating electrode is the anode potential.

Referring to claims 3, 5 and 6 Odenthal discloses (column 10 lines 7-10) the high voltage potential applied to the outer electrodes has a magnitude of between 12 kv and 24 kv.

Conclusion

...is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art with respect to electron gun assembly with improved focusing of electron beams.

U. S. Patent No. 3,863,091 to Hurukawa et al.

U. S. Patent No. 4,745,331 to Alig

U. S. Patent No. 6,025,674 to Tojyou et al.

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GB 2049989 Bozidar et al.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SR
Sikha Roy
Patent Examiner
Art Unit 2879

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